REMARKS

Claims 1-63 are currently pending in the application. Claims 1, 4, 8, 9, 35, 41, 42, and 53 have been amended herein; and claims 6, 7, 39, 40, and 57 have been canceled.

The drawings are objected to as failing to comply with 37 CFR §1.84(p)(5) because Fig. 1 includes the reference number "180" and this reference number is not mentioned in the description.

The undersigned attorney believes that the objection is in error because Fig. 1 only bears reference numbers 100, 104, and 108, and each of these reference numbers can be found in the description beginning at paragraph 29.

The abstract is objected to because it is greater than 150 words in length. The abstract has been amended herein so as to comply with the limitation on the number of words.

The specification is objected to because the spacing of the lines of the specification is such as to make reading difficult. The undersigned attorney believes this objection is in error. The specification and drawings were electronically submitted to the USPTO on October 12, 2004 using the electronic filing software required by the USPTO at that time. As such, the specification that was submitted to the USPTO has the required double spacing.

The claims are objected to because the lines are crowded too closely together, making reading difficult. The undersigned attorney believes this objection is also in error for the same reason noted with respect to the foregoing objection to the specification.

Claims 4-5 are object to because of an informality in claim 4. Claim 4 has been amended herein to address the noted informality.

Claims 1-3, 6, 8-13, 16, 20, 35-36, 39, 41-44, 47, 50, 52-54, 58 and 61 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,799,200 (hereinafter referred to as "the '200 patent") to Brant.

Independent claim 1 is directed to a data storage system comprising a first data storage device comprising and a second data storage device. The first data storage device comprises a memory for holding data. The second data storage device comprises a volatile memory, a non-volatile memory, a processor for causing a copy of data provided to the first data storage device to be provided to the volatile memory of the second data storage device, and in the event of a power interruption, moving the data from the volatile memory to the non-volatile memory. The second data storage device further comprises a secondary power source comprising a capacitor for providing power to transfer data from the volatile memory to the non-volatile memory.

The '200 patent is directed to a system for preserving data in a DRAM despite the loss of the primary source of power to the system. In this regard, a flash ROM and an auxiliary power source are employed by a controller, independent of the system, to transfer data from the DRAM to the flash ROM immediately upon the loss of the primary source of power to the system. The '200 patent does not, however, teach or suggest the use of a second power source comprising a capacitor. More specifically, the '200 patent does not teach or suggest a capacitor that provides power for the specific purpose of transferring data from one location to another location, let alone from a volatile memory to a non-volatile memory. Moreover the '200 patent does not teach or suggest such a capacitor in combination with one or more of the other elements sets forth in independent claim 1. Based on the foregoing, it is respectfully asserted that independent claim 1 is patentable.

Independent claim 35 is directed to a method for storing data in a data storage system . The method comprises: (a) providing a first data storage device comprising a memory for holding data; (b) providing a second data storage device comprising a volatile memory, a non-volatile memory, and a power source comprising a capacitor for providing power to transfer data from the volatile memory to the non-volatile memory; (c) storing data to be stored in the first data storage device in the volatile memory of the second data storage device; and (d) moving, using power provided by the capacitor, data from the volatile memory to the non-volatile memory in the event of a power interruption.

The '200 patent is directed to the preservation of data in the event of a power interruption. The '200 patent does not, however, teach or suggest the providing of a capacitor for providing power to transfer data between a volatile memory and a non-volatile memory.

Moreover, the '200 patent does not teach or suggest the moving of data from a volatile memory to a non-volatile memory using the power provided by such a capacitor in the event of a power interruption. Based on the foregoing, it is respectfully asserted that independent claim 35 is patentable.

Independent claim 53 is directed to a data storage system comprising a primary data storage device and a backup data storage device. The primary data storage device comprises a primary memory for holding data. The backup data storage device comprises: (a) volatile memory, (b) a non-volatile memory, (c) a power source comprising a capacitor for providing power to transfer data from the volatile memory to the non-volatile memory; and (d) a processor operable to (i) cause a copy of data provided to the primary data storage device to be provided to the backup data volatile memory and to (ii) move, upon detection of a power interruption, data from the volatile memory to the non-volatile memory and verify the accuracy of the data stored in the non-volatile memory using power provided by the capacitor.

The '200 patent is directed to a system that operates to preserve data. The system does not teach or suggest any kind of backup power source that comprises a capacitor for providing power to transfer data from a volatile memory to a non-volatile memory. Further, the '200 patent does not teach or suggest a processor that is operable, upon the detection of a power interruption, to move data from a volatile memory to a non-volatile memory using power provided by the capacitor. Based on the foregoing, it is respectfully asserted that independent claim 53 is patentable.

Each of claims 2, 3, 8-13, 16, 20, 34-36, 41-44, 47, 50, 52, 54, 58 and 61 is a dependent claim that depends either directly or indirectly from one of independent claims 1, 35, and 53. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 6 and 39 have been canceled. Consequently, the rejection of these claims is rendered moot.

Claims 4-5, 37-38, and 55-56 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of U.S. Publication No. 2002/0156983 (hereinafter referred to as "the '983 reference") to Jones.

Each of claims 4-5, 37-38, and 55-56 is a dependent claim that depends either directly or indirectly from one of independent claims 1, 35, and 53. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 7, 40, and 57 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of U.S. Publication No. 2002/0041174 (hereinafter referred to as "the '174 reference") to Purkey.

Each of claims 7, 40, and 57 has been canceled. Consequently, the rejection of these claims is rendered moot. It should also be noted that the '174 reference relates to a apparatus for providing supplementary power to a vehicle or other machinery. As such, the '174 reference is not directed to (a) a data storage system, (b) the preservation of data in such a system in the event of a power interruption, (c) the use of a capacitor to provide power to be used to preserve data, (d) the use of power provided by a capacitor to move data from one location to another location, or (e) the use of power provided by a capacitor to move data from a volatile memory to a non-volatile memory.

Claims 14, 45, and 59 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of U.S. Publication No. 2001/0002479 (hereinafter referred to as "the '479 reference") to Asoh.

Each of claims 14, 45, and 59 is a dependent claim that depends either directly or indirectly from one of independent claims 1, 35, and 53. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 15, 21, 46, 51, and 60 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of U.S. Publication No. 2004/0138855 (hereinafter referred to as "the '855 reference") to Chambers.

Each of claims 15, 21, 46, 51, and 60 is a dependent claim that depends either directly or indirectly from one of independent claims 1, 35, and 53. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 17, 22, 25, 27-29, and 34 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of U.S. Patent No. 6,473,781 (hereinafter referred to as "the '781 patent") to Skagerwall.

Independent claim 22 is directed to a data storage system comprising a block data storage device, a backup memory device, and a block data storage processor. The block data storage device comprises a memory capable of storing block data. The backup memory device comprises a non-volatile memory. The block data storage processor is interconnected to the block data storage device and the backup memory device. Further the processor is capable of receiving block data to be written to the block data storage device, storing the data in the backup memory device, manipulating the block data (based on unique block addresses) to enhance the efficiency of the block data storage device when the block data in the memory of the block data storage device, and issuing a write command to the block data storage device to write the block data to the memory of the block data storage device.

The '200 patent is directed to a system that operates to preserve data. The '200 patent does not disclose block data, block addresses, or a block data storage device. As such the '200 patent does not teach or suggest the block data storage device or block data storage processor of claim 22. Specifically, the '200 patent does not teach or suggest a block data storage processor that is capable of the receiving block data, storing block data, manipulating block data, or issuing one or more write commands as set forth in claim 22. The '781 patent is directed to a communication system. More specifically, the '781 patent is directed to a system that apparently makes the key word searches on the Internet and the like less tedious and time consuming. See

Background of the Invention. While the '781 patent indicates that "tag data blocks of object tags with sequential numbers are stored on directory servers with sequential numbers and the list of all available directory servers, i.e., their addresses, sorted by assigned numbers , are maintained as the hashtable," there is nothing in the cited passage that teaches or suggests that block data is manipulated to enhance the efficiency of a block data storage device when such a device stores block data. Based on the foregoing, it is respectfully asserted that independent claim 53 is patentable.

Each of claims 17, 25, 27-29, and 34 is a dependent claim that depends either directly or indirectly from one of independent claims 1 and 22. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 23-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of the '781 patent and the '983 reference.

Each of claims 23 and 24 is a dependent claims that depends either directly or indirectly from independent claim 22. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to independent claim 22. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claims 18-19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of the '781 patent and U.S. Publication No. 2005/0228941 (hereinafter referred to as "the '941 reference") to Abe.

Each of claims 18 and 19 is a dependent claims that depends either directly or indirectly from independent claim 1. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to independent claim 1. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

Claim 26 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of the '781 patent and the '174 reference.

Claim 26 is a dependent claims that depends either directly or indirectly from independent claim 22. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to independent claim 22. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

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Claims 30-33 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of the '781 patent and the '855 reference.

Each of claims 30-33 is a dependent claims that depends either directly or indirectly from independent claim 22. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to independent claim 22. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

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Claims 48-49 and 62-63 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '200 patent in view of the '781 patent, the '941 reference and U.S. Patent No. 4,774,659 (hereinafter referred to as "the '659 patent") to Smith.

Each of claims 48, 49, 62, and 63 is a dependent claim that depends either directly or indirectly from one of independent claims 35 and 53. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

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No claim related fees are believed to be due with this response. In the event any such fees are due, please debit Deposit Account 08-2623.

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In the event that a petition for extension of time under 37 CFR §1.136(a) is required to have this reply considered and such a petition does not accompany this reply, please consider this
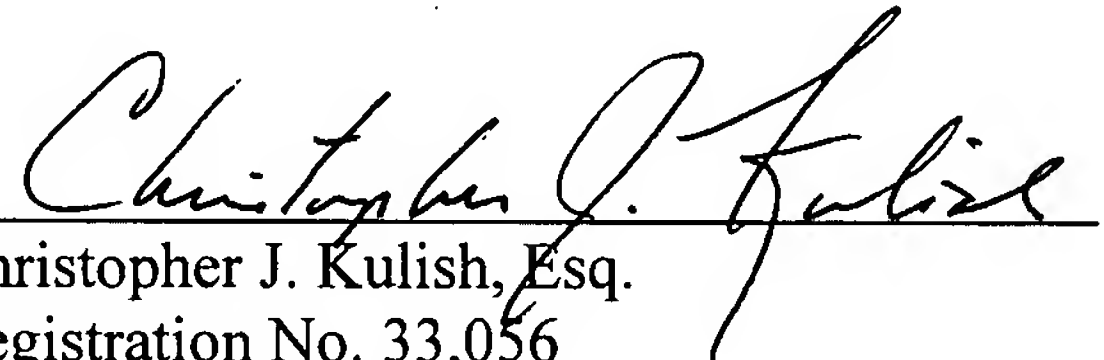
a petition for an extension of time for the required number of months and authorization to debit Deposit Account 08-2623 for the required fee.

The application now appearing to be in form for allowance, reconsideration and allowance thereof is respectfully requested. If a telephone conversation will further the prosecution and/or expedite allowance, the examiner is invited to contact the undersigned attorney.

Respectfully submitted,

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